

In the claims:

1-51. (Cancelled)

52. (Previously Presented) A solid three-dimensional prototype composition, comprising:

multiple layers of pre-ceramic deposited in contact with one another, each of said multiple layers of pre-ceramic comprising a particulate blend including a calcium phosphate source;

wherein said particulate blend was hydrated by a solubilizing binder to produce said pre-ceramic;

wherein said particulate blend comprises:

tetracalcium phosphate;

citric acid;

CaAl-LDH (NO₃);

poly acrylic acid (60k);

Li₃PO₄; and

magnesium fluoride.

53. (Currently Amended) The composition of claim [[49]] 52, wherein said pre-ceramic has a compression modulus of 0.05 Giga-Pascal.

54. (Currently Amended) The composition of claim [[49]] 52, wherein said pre-ceramic is configured to produce a ceramic upon firing.

55. (Original) The composition of claim 54, wherein said ceramic is configured to have a compression modulus over 14.0 Giga-Pascal.

56-67. (Cancelled)

68. (Currently Amended) The composition of claim [[49]] 52, wherein said layers of pre-ceramic are disposed at edges of layers of said particulate blend so as to form a shell around a quantity of said particulate blend corresponding to a shape of an object being formed.

69. (Cancelled)

70. (Currently Amended) The composition of claim [[69]] 52, wherein said solubilizing binder comprises a humectant or a surfactant.

71-81. (Cancelled)

82. (Previously Presented) A composition for forming a solid three-dimensional prototype, said composition comprising:

a particulate blend including a calcium phosphate source from which pre-ceramic layers of an object being fabricated are formed, wherein said particulate blend comprises:

tetracalcium phosphate;

citric acid;

CaAl-LDH (NO_3);

polyacrylic acid (60k);

Li_3PO_4 ; and

magnesium fluoride; and

a solubilizing binder for selective introduction into said particulate blend, wherein said binder is configured to dissolve calcium phosphate of said calcium phosphate source, with reprecipitation of said calcium phosphate producing said pre-ceramic.

83. (Previously Presented) A composition for forming a solid three-dimensional prototype, said composition comprising:

a particulate blend including a calcium phosphate source from which pre-ceramic layers of an object being fabricated are formed, wherein said solubilizing binder comprises:

phosphoric acid (H_3PO_4);

2-pyrrolidone;

liponic ethylene glycol (LEG-1);

SURFYNOL 465;

water;

1,5-pentanediol; and

TERGITOL-15-s-7; and

a solubilizing binder for selective introduction into said particulate blend, wherein said binder is configured to dissolve calcium phosphate of said calcium phosphate source, with reprecipitation of said calcium phosphate producing said pre-ceramic.

84. (Currently Amended) The composition of claim [[69]] 82, wherein said binder comprises a pH modifier.

85. (Previously Presented) The composition of claim 84, wherein said pH modifier comprises one of a phosphoric acid (H_3PO_4), a mineral acid, a phytic acid, an acetic acid, an ethanoic acid, a potassium hydroxide (KOH), a lithium hydroxide (LiOH), a sodium hydroxide (NaOH), a NH_4OH , an aluminum hydroxide ($\text{Al}(\text{OH})_3$), a magnesium hydroxide ($\text{Mg}(\text{OH})_2$), a calcium hydroxide ($\text{Ca}(\text{OH})_2$), or a barium hydroxide ($\text{Ba}(\text{OH})_2$).

86. (New) The composition of claim 83, wherein said binder comprises a pH modifier.

87. (New) The composition of claim 86, wherein said pH modifier comprises one of a phosphoric acid (H_3PO_4), a mineral acid, a phytic acid, an acetic acid, an ethanoic acid, a potassium hydroxide (KOH), a lithium hydroxide (LiOH), a sodium hydroxide (NaOH), a NH_4OH , an aluminum hydroxide ($\text{Al}(\text{OH})_3$), a magnesium hydroxide ($\text{Mg}(\text{OH})_2$), a calcium hydroxide ($\text{Ca}(\text{OH})_2$), or a barium hydroxide ($\text{Ba}(\text{OH})_2$).